INTERNATIONAL BULLETIN

OF PLANT PROTECTION

1936 No. 10

DISCOVERIES AND CURRENT EVENTS *

Argentine Republic: Locust Invasion during the Years 1935 and 1936 †

The present report completes the previous report (see this *Bulletin*, 1936, No. 2, pp. 26-27), relating to the invasion of the South American locust (*Schistocerca paranensis*) which took place in the Republic during the period 1935-1936.

The ' voladora de invierno ' infested a very vast region, embracing part of the following zones: provinces of Buenos Aires, Santa Fé, Entre Ríos, Córdoba, Corrientes, Santiago del Estero, San Luis, Tucumán, Salta, and La Rioja, and the national territories of Chaco and Formosa, that is to say, the whole country excepting Patagonia, the most infested provinces being the first four mentioned and especially the province of Buenos Aires.

Notwithstanding this enormous region the actual area infested was 325.062 km², and 1.234.173, 1.582.635, 545.552 and 483.629 during the years 1932, 1933, 1934, and 1935, respectively.

To carry out the control the regular funds at the disposal of the ' Dirección de Defensa Agrícola ' were increased by 5 million ' pesos ' which were specially granted by the National Congress for this purpose. The first stage consisted of destroying the adults to the amount of 6.984.360 kilograms. Then an incalculable quantity of eggs were destroyed chiefly by means of ploughs.

The larvae were extensively controlled by means of flame throwers, soapy solutions and ' Larvicida D. A.', prepared by the ' Fábrica Oficial de Insecticidas y Fungicidas ' at Tigre, dependent on the ' Dirección de Sanidad Vegetal '. It is calculated that 4.773.852 kilograms of larvae were destroyed.

The culminating period of the campaign then followed: hopper control, the amount destroyed being 204.901.719 kilograms. Barriers placed strategically gave, as in other seasons, admirable results. The State distributed 41.844.845 metres of this material. Poisoned baits were also utilized though on a reduced scale. Fortunately we are able to report that the damage caused to the principal crops of the country was small especially in respect of wheat and flax, while, as regards maize, a crop which always is in constant danger from locust invasions, the loss was only 10 %.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Dr. JUAN F. TOMASELLO, Director of ' Defensa Agrícola ', transmitted by the official correspondent of the Institute, Mr. JUAN B. MARCHIONATTO, ' Ingeniero Agrónomo ', Director of ' Sanidad Vegetal ', Ministry of Agriculture, Buenos Aires, Argentine Republic.

Eritrea: Locusts *

During the months of July and August, 1936, no locusts were reported in the Colony.

Italy: Numerous Outbreaks of *Locusta migratoria* L. ph. *gregaria* (Typical) and Phases of Transition in the Province of Naples †

For the first time in the province of Naples and in all central-southern Italy and the islands, including the most eastern regions of northern Italy, numerous accumulations of *Locusta migratoria* L. ph. *gregaria* (typical) have appeared this year accompanied by individuals of phases of transition, more or less numerous according to the zones, and being very varied in colouring, ranging from yellowish cream to grass-green and earth-brown, contrary to the gregarious individuals which are very brillantly coloured in yellowish orange and velvety black on the abdomen. For this reason these latter are distinguished by the local name of ' a rille russe ' which means in Italian ' cavalletta rossa '.

The ph. *gregaria* (=*L. migratoria* L. ph. *migratoria*) in contrast to the ph. *solitaria* (= *L. migratoria* L. ph. *danica* L. or *Pachytylus danicus* L.) has, up to the present, been considered by taxonomists and biologists as not liable to develope in our continent in such proportions as to require artificial control. Now, however, it has been observed in the province of Naples (Pantano di Sessa Aurunca and Pantano di Mondragone) that *L. migratoria* L. has arrived at the extreme limit of its gregariousness, with youngs and adults in very numerous accumulations which move about, settle, break up and re-assemble and traverse dykes and ditches with great mobility and facility.

The particular zones where the infestation was discovered and where an intense control is being carried out are: — Centore, Parco Nuovo Irace, Parco della Fica, 75 Moggia, Bocche di Pantano (for Pantano di Sessa Aurunca), and Parco Pacifico, Argini di Forma Chiuppara, Pettiglia, Mazzasette, Ripa Larga, Ripa Matriciana, Contrada Pedoloni, Contrada Ariella (for Pantano di Mondragone). Its development certainly began towards the middle of July (data obtained by analogy and induction), given that on 3 September, 1936, the date on which this exceptional infestation was discovered, the mass of insects had already arrived at the stage of second nymph, in an advanced condition, with also a few adults and various larvae and first nymphs. Owing to the agricultural physionomy of the above mentioned regions where (and especially in respect of Pantano di Sessa Aurunca) wheat is the predominating winter and spring crop and on account of the enormous voracity of the individuals belonging to the ph. *gregaria* of *L. migratoria* L. in respect of the graminaceous plants in general both wild and cultivated, it was

* Communication from the official correspondent of the Institute, Dr. ROLANDO GUIDOTTI, Chief of the Agricultural Bureau of Eritrea, transmitted by the Government of the Colony.

† Communication from Dr. GIUSEPPE JANNONE, Assistant, Institute of Agricultural Entomology, Faculty of Agriculture, Royal University of Naples, transmitted to the International Institute of Agriculture by the Director, Royal Laboratory of Agricultural Entomology, Portici, Naples.

extremely fortunate for the farmers that the biological cycle took place at a later epoch in relation to that of other species in the neighbouring territories, namely, *Dociostaurus maroccanus* Thunb., *Calliptamus barbarus* (Costa) and *C. italicus* L. If the accumulations of *L. migratoria* L. ph. *gregaria* had appeared in the months of April and May to the same extent as those of *Dociostaurus*, considerable losses would have been experienced in the wheat, still green, owing to the great voracity of these insects, caused by the large size of the individuals, and on account of the fact that they do not readily eat poisoned baits.

Now, at the period of development, the plant that suffered most was late maize (called locally ' seme-freddo ' or ' cinquantino '), sown as a second crop after wheat or haricot beans or as the principal crop after the natural drying up of the soil, which was still in the green state and, in certain parts, had not yet formed ears in the first ten days of September, chiefly in Pantano di Mondragone; also tomato fruits suffered greatly in Parco Nuovo Irace. Plants of melons, watermelons, marrows, lucerne, tomatoes (leaves and stems), sunflowers, castor-oil, cabbages (plants in nurseries) were left untouched even when in direct contact with very numerous accumulations of nymphs and adults. Among the wild plants, the hydrophyl, mesophyl and xerophyl Gramineae, also a very few of species belonging to other families, suffered particularly; in certain cases, were even destroyed having caused the stoppage of and had even attracted accumulations of first and second nymphs. This beneficial influence of the wild flora very abundant in Gramineae along the bottoms of water canals has always been very apparent.

The control was organised and started at once, after the discovery on 3 September, by the Royal Phytopathological Observatory of the Campania and Calabria, with headquarters in Portici, in collaboration with the Provincial Commissariat for Plant Diseases, attached to the Royal Agricultural Inspectorate of the province of Naples. The provisions for the control and technical advice relative thereto were supplied, after a careful inquiry in the infested zones, by the writer of the present communication and by Dr. Giuseppe Russo, Inspector of the above mentioned Observatory and Director in charge of the Royal Laboratory of Agricultural Entomology during the absence of Prof. F. Silvestri.

Minute bio-ecological investigations of the phases of *L. migratoria* L. have been stared, also biometrical measurements of individuals collected in the new zone of infestation; these observations and measurements will be continued uninterruptedly. At the laboratory artificial breeding has already been initiated.

Mozambique: Locust Movements (*Nomadacris septemfasciata* and *Locusta migratoria migratorioides*) *

During the month of May, 1936, from the north of the Colony, some swarms are reported in the south-east of Niassa Province, in Madimba, near Ribaué, proceeding from the South.

* Communication from Mr. Júlio Gardé Alfaro Cardoso, Chief of the Entomological Section, Lourenço Marques, transmitted to the Institute by the 'Repartição Técnica de Agricultura' of the Colony.

In the central part, the movement of some swarms has begun, taking a northerly direction, the greater part of these swarms came from the territories of Manica and Sofala.

In the south of the Colony, the locust movement has been practically limited to the circumscription of Maputo. In this region, many hopper bands have been observed. These have been controlled, but many have attained the winged stage and remain in the district moving now towards the North, now towards the Zululand frontier.

In conclusion, the general state of the Colony has greatly improved this year, the swarms being concentrated in the regions of Maputo and Zambezi.

During the month of June, 1936, information is lacking on the existence of locusts in the north of the Colony.

In the centre, in the districts of Quelimane and Tete, a few swarms have appeared which flew about in various directions, causing some damage.

In the south, the existence of swarms has been reported in the circumscription of Vilanculos. A large swarm also passed by Matola.

A small swarm was seen in Namachacha at the junction of the frontier with Swaziland.

The present situation, compared with the same period last year, is good in the north and has also improved in the centre and south.

Southern Rhodesia: Locust Invasion, 1932-1936 *

Monthly Report No. 43. June, 1936.

Few reports of locusts have been received, and these have referred only to the Red Locust (*Nomadacris septemfasciata* Serv.).

The last hoppers were destroyed or developed wings early in the month.

Winged swarms have been reported from the districts of:— Charter, Hartly, Chibi, Victoria, Mazoe, Lomagundi, Salisbury and Mrewa.

Most of these have been described as of " small " or " medium " size, but one swarm seen in the north of the Lomagunfi district on the 20th was described as " large ".

The position appears to have been very similar to that during June last year, except that the swarms have been smaller.

Monthly Report No. 44. July, 1936.

Winged swarms of the Red Locust have been reported from seven districts during the month, namely:— Salisbury, Mrewa, Lomagundi, Mazoe, Ndanga, Victoria, and Inyanga.

* Communication from the official correspondent of the Institute, Mr. RUPERT W. JACK, F.E.S., Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

Some of these swarms have been described as large. No prevalent direction of flight is apparent from the reports, all four points of the compass being included.

The situation may be regarded as favourable compared with the preceding years of the present invasion.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

French West Africa. — In the session of 30 May, 1936, the Permanent Commission of the Council of the Government of French West Africa passed a resolution for the modification of the customs regime relative to insecticides and fungicides of foreign origin imported into the Colony, belonging to the group given preferential treatment. (*Journal Officiel de la République française*, Paris, 19 août 1936, LXVIII[e] année, n° 193, p. 8977).

Germany. — By Circular of 6 August, 1936, directions are given for the control of rats.

The control should be carried out once only and should include the entire territory of the commune and those of neighbouring communes if the territories touch or are mixed. The best periods are the end of autumn and the beginning of spring when the rats are in their winter quarters and the work of control is not prevented by snow.

The police authorities will decide if it is preferable to entrust the control to owners of houses and land or to persons expert in the work. In the first case preparations with a squill basis may be used only, if the control is carried out by professionals the use of poisons is also permitted on the condition, however, that these are officially recognised and approved preparations and that the application is carried out in such a way as to entail no danger either for man or domestic animals. The use of bacterial preparations is forbidden.

The toxic preparations must be as varied as possible.

A rat refusing a given preparation should immediately find another which it may accept. After having removed all food stuffs and residues, the poisoned baits should be distributed in sufficient quantities. When the control is finished the remains should be collected and burnt. It is advisable that the effect of the control should be determined by an official.

At the end of the control all rat holes should be blocked with a mixture of cement and broken glass.

In general it is sufficient to organise a general control once or twice a year in the communes seriously infested. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1936, Bd. VIII, Nr. 6, S. 138-139).

*** The Decree of 15 August, 1936, amends the Decree of 6 April, 1936, forbidding the use of phosphuretted hydrogen in the control of parasites [see

this *Bulletin*, 1936, No. 6, p. 124]. The preparations giving off phosphuretted hydrogen are permitted if used in the control of vermin and if the products should act as stomach poison. (*Ibid.*, S. 137).

Germany (Bavaria). — By Notification of 19 February, 1936, relative to the control of black rust [*Puccinia graminis*], it is prescribed, in the provinces of Lower Bavaria and the Upper Palatinate, that shrubs of barberry [*Berberis*] growing at least 250 m. distance from all fields containing cereals should be destroyed. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1936, Bd. VIII, Nr. 5, S. 127-128).

Germany (Free City of Dantzig). — The Decree of 8 June, 1936, relative to the use of phosphuretted hydrogen in the control of parasites, corresponds to the provisions adopted in this respect by the Decree of 4 April, 1936 [see this *Bulletin*, 1936, No. 6, p. 124]. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1936, Bd. VIII, Nr. 5, S. 131).

Germany (Free City of Lübeck). — By Police Ordinance of 29 June, 1936, the public seed disinfection establishments have been put under official supervision. The provisions adopted correspond to those contained in the Decree of 4 June, 1934, for Prussian Saxony [see this *Bulletin*, 1934, No. 11, p. 248].

A Notification, dated 30 June, 1936, relative to the application of the present Ordinance fixes, *inter alia*, that the persons charged with the functioning of the disinfection machine should be provided with masks for protection. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1936, Bd. VIII, Nr. 5, S. 128-130).

Germany (Mecklenburg). — By Decree of 10 August, 1936, the public establishments for seed disinfection have been subjected to official supervision. The provisions adopted correspond to those prescribed by the Ordinance of 29 June, 1936, in the Free City of Lübeck. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1936, Bd. VIII, Nr. 6, S. 140).

Germany (Oldenburg). — The Decree of 14 July, 1936, modifying the Decree of 4 February, 1935, relative to the protection of fields and gardens against pigeons [see this *Bulletin*, 1935, No. 5, p. 110], also provides for the protection of rape and other oleaginous crops. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. August 1936, Bd. VIII, Nr. 5, S. 130).

Germany (Saar Territory). — By Police Ordinance of 27 April, 1936, for the protection against the Colorado beetle (*Leptinotarsa decemlineata*), all cultivated land, and especially land cultivated with potatoes, tomatoes and other Solanaceae is subject to official supervision.

A special protection service will be organised by the Corporation of Agriculture.

All holders of land and also all other persons who have observed the presence of the Colorado beetle or indications giving rise to the suspected presence of this insect are obliged to make a declaration immediately to that effect. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1936, Bd. VIII, Nr. 6, S. 140-141).

*** By Police Ordinance of 31 July, 1936, with a view to the immediate recognition of the possible presence of the Colorado beetle, tours of supervison have been established to be carried out on certain fixed days.

As a general rule, it is established that these tours of supervision will take place once a week. The Police authorities will fix and publish the date.

All holders of land cultivated with potatoes and tomatoes are obliged to examine these crops, on the fixed days, for the presence of the Colorado beetle. (*Ibid.*, S. 141-142).

Argentine Republic. — The Decree No. 78.377 of 14 March, 1936 authorizes the Department of Agriculture to expend the sum of 600,000 ' pesos ' to cover expenses in the control of the South American locust [*Schistocerca paranensis*] up to the end of the present season. (*Boletín Oficial de la República Argentina*, Buenos Aires, 30 de mayo de 1936, año XLIV, núm. 12.574, pág. 1123).

*** By Decree No. 82.299 of 12 May, 1936, the Department of Agriculture is authorized to expend the sum of 600.000 ' pesos ' on the control of the South American locust [*Schistocerca paranensis*]. (*Ibid.*, 21 de julio de 1936, núm. 12.614, pág. 692).

*** By Decree No. 82.526 of 15 May, 1936, all persons, business enterprises or bodies proposing to produce seeds of Sudan grass (*Sorghum vulgare* var. *sudanense*) and sweet sorghum (*S. vulgare* var. *saccharatum*), for the purpose of sale, are obliged to be entered, sixty days before the date of sowing, in a register opened, for this purpose, by the ' Dirección de Sanidad Vegetal '.

The entries will include the name and address of the producer, site of cultivation, area intended for sowing and origin of the seeds for multiplication.

For authorisation to be given to sow Sudan grass or sweet sorghum it should be previously determined that the land intended for this purpose contains no plants and rhizomes of Aleppo grass [*S. halepense*].

The only seed of Sudan grass and sweet sorghum that may be used for sowing is that for which has been obtained the official certificate of analysis certifying the non-existence of Aleppo grass.

If during the period of cultivation of this seed the existence of plants of Aleppo grass is determined it will be declared as unfit for seed production.

Seeds of Sudan grass and sweet sorghum which in the following year are intended for sowing in the registered seed farms should be subjected also to physical-chemical analysis. (*Ibid.*, 27 de julio de 1936, núm. 12.619, pág. 93).

*** The Decree No. 85.193 of 26 June, 1936, regulates the Law No. 12.297 which authorises the acquisition of potato seed from abroad. (*Ibid.*, págs. 931 y 932).

*** The Decree No. 85.635 of 4 July, 1936, authorises the Port of Rosario to introduce non-disinfected cotton seed destined exclusively for industrial uses and providing that it is transported by river and if it is utilised in the manufacture of vegetable oils situated within the zone of the Port or on the banks of the Paraná river.

The 'Dirección of Sanidad Vegetal' will supervise the transport of non-disinfected seed and its industrial preparation, will issue the corresponding transport permits and see that the said factories carry out daily incineration of the residues of manufacture.

The removal and transport of used empty sacks or other packing material utilised for cotton seed by the factories interested, is prohibited unless previously disinfected by the said factories and certified by the 'Dirección de Sanidad Vegetal'. (*Ibid.*, pág. 932).

Australia (Commonwealth of). — The Ordinance No. 7 of 1936, dated 26 February, 1936 and which may be cited as the 'Noxious Weeds Ordinance 1936.', amends the Noxious Weeds Ordinance 1921-1922. (*Commonwealth of Australia Gazette*, Canberra, 27 February, 1936, No. 27, pp. 339-340).

Australia (Western Australia). — By Order in Council of 12 March, 1936 Regulation 48A of the Regulations under 'The Plant Diseases Act, 1914-1935', published in the *Government Gazette* on 16 September, 1921, as amended by Order in Council published in the *Government Gazette* on 24 October, 1930, is repealed, and a new Regulation is inserted in lieu thereof, as follows:—

48A. Any person having in his possession any seeds of the tobacco plant may request any inspector to examine such seeds to ascertain whether or not such seeds are infected with disease, and to advise as to the method of treatment to eradicate such disease, and such inspector shall, upon payment of the fee prescribed under Regulation 9 of these Regulations, examine the said seeds, and, if in his opinion they are infected with any disease, shall advise as to the best method of treatment to eradicate such disease. (*Government Gazette of Western Australia*, Perth, March 20, 1936, No. 17, p. 415).

*** By Order in Council of 13 May, 1936 a Regulation, to stand as Regulation 48B, is inserted after Regulation 48A of the Regulations made and published in the *Government Gazette* on 16 September, 1931, as amended by Order in Council made and published in the *Government Gazette* on 24 October, 1930, as follows:—

48B. The occupier of any land on which the tobacco plant has been grown shall, not later than the 30th day of May in every year, gather and effectively destroy by fire all tobacco plants and parts thereof, and the roots and waste pro-

ducts of all such plants then being on or upon such land or in any place under his control. Provided that this Regulation shall not apply to the leaves of tobacco plants which have been gathered and retained for curing, or to the seeds of tobacco plants which have been harvested. (*Ibid.*, May 22, 1936, No. 27, pp. 729-730).

Australia (Queensland). — The Diseases in Plants Acts and Fruit and Vegetables Act Amendment Act of 1935, assented to 7 November, 1935, amend The Diseases in Plants Acts, 1929 to 1934 in certain particulars. (*Queensland Government Gazette*, Brisbane, 13th November, 1935, No. 121, pp. 1395-1398).

Belgium. — The Ministerial Decree of 9 July, 1936, authorises, up to 25 August inclusively, the capture of sparrows by means of a net known as 'tirasse', and by no other means, in the neighbourhood of Termonde and Saint-Nicolas. (*Moniteur Belge*, Bruxelles, 16 juillet 1936, 106e année, nº 198, p. 4860).

Straits Settlements. — By Notification No. 1485 have been published the Plant Importation Rules, 1936, regulating the importation of plants into the Colony, by aircraft and sea. (*Straits Settlements Government Gazette*, Singapore, May 29, 1936, Vol. LXXI, No. 47, pp. 1405-1409).

Federated Malay States. — By Notification No. 3659, published on 23 August, 1935, the importation of plants and parts of plants belonging to certain genera and species (*Hevea, Gossypium, Coffea*, with the exception of dry berries, *Saccharum officinarum, Camellia sativa*, etc.), also the importation of shoots of all varieties of *Musa sapientum*, fruits of the various species of *Elaeis*, fruits of *Cocos nucifera* and all living parts of *Ananas sativus*, with the exception of pine-apple fruits from the Netherlands Indies, are subjected to the following rules:—

Importation should take place by sea (by the port of Swettenham) or by post through the bureaux of the Adviser on Agriculture or the Chief Agricultural Field Officer. Before expediting the products application should also be made to these bureaux for permission to import.

Importation will be permitted on conditions that (1) the consignments are accompanied by a certificate issued by a person recognised by the competent authority of the Federated Malay States certifying that the consignment has been inspected by the said person and found to be free from all diseases and pests of plants, and that (2) the consignment, on its arrival, is subjected to phytopathological inspection.

The official carrying out the inspection is authorised to permit the delivery of the merchandise or to place it in quarantine and subject it to the disinfection treatment he considers necessary, or else to have it destroyed according to the result of the inspection.

Consignments failing to conform to these provisions may be returned. (*Deutsches Handels-Archiv*, Berlin, 1. Juliheft 1936, 90. Jahrg., S. 1927-1928).

France. — By Ministerial Decree of 7 July, 1936, the prohibition contained in Article 1 of the Decree of 8 March, 1932 [see this *Bulletin*, 1932, No. 4, p. 57] relative to measures to be taken for preventing the introduction into France of San José scale (*Aspidiotus perniciosus*) is applicable to consignments originating from the territories of the Union of Socialist Soviet Republics, Yugoslavia and Uruguay.

The importation into France of fresh fruits originating and coming from the above mentioned territories, is authorised only by the custom-houses nominated in the Ministerial Decree of 9 May, 1932 [see this *Bulletin*, 1932, No. 6, p. 100] and by the custom-house of Kehl-Strasbourg. (*Journal Officiel de la République française*, Paris, 11 juillet 1936, LXVIII[e] année, n° 162, p. 7278).

Hungary. — The Law No. XVII of 8 June, 1936, ratifies the International Convention for Plant Protection signed in Rome on 16 April, 1929 [see this *Bulletin*, 1929, No. 4, pp. 50-55]. (*1936. Országos Törvénytár*, 1936, junius 13, 6. szám, 167-188 o.).

Italy. — By Ministerial Decree of 14 June, 1936, a competition has been opened in which prizes will be awarded to persons who carry out the cultivation of pyrethrum (*Chrysanthemum cinerariaefolium*) on a commercial basis. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 22 luglio 1936, anno 77°, n. 168, p. 2323).

*** By Ministerial Decree of 16 July, 1936, the commune of Tuscania in the province of Viterbo has been declared infested with grape phylloxera. (*Ibid.*, 28 luglio 1936, n. 173, p. 2470).

*** By Ministerial Decree of 28 July, 1936, the commune of Montefalco, in the province of Perugia, has been declared infested by grape phylloxera. (*Ibid.*, 19 agosto 1936, n. 151, p. 2636).

*** A Ministerial Decree of 29 July, 1936, establishes the rules to be followed, from the phytosanitary point of view, for temporary importation of potatoes from abroad intended exclusively for planting, for the farming season 1936-1937. (*Ibid.*, 31 luglio 1936, n. 176, pp. 2500-2501).

Morocco (French Zone). — By 'Dahir' of 8 June, 1936 (18 rebia I 1355) a Direction of Economic Affairs is established within the Administration of the Protectorate which includes, *inter alia*, the Service of Agriculture and Colonization, the Service of Trade and Industry and the Sherifian Office of Control and Exportation.

The Direction of Waters and Forests is attached to the Direction of Economic Affairs.

The Service of Agriculture and Colonization includes among its functions plant protection and phytosanitary inspection.

The Direction General of Agriculture, Trade and Colonization is abolished.

The Service of Agriculture and the Service of Plant Protection and Phytosanitary Inspection are abolished. (Empire chérifien. Protectorat de la République française au Maroc. *Bulletin Officiel*, Rabat, 12 juin 1936, XXV^e année, n° 1233, p. 699-700).

*** With a view to preventing the introduction of *Synchytrium endobioticum*, also *Leptinotarsa decemlineata* and *L. multitaeniata*, the Vizirial Decree of 1 August, 1936 (12 joumada I 1355) fixes the sanitary measures to be applied to potatoes, tomatoes and eggplants on their entry into the French Zone of the Sherifian Empire.

The models of the control certificate of cleaning and packing of potatoes, tomatoes and eggplants and of the certificate of sanitary inspection of the said plant products are attached to the present Decree. (*Ibid.*, 28 août 1936, n° 1244, p. 1060-1062).

*** By Decree of the Director of Economic Affairs, dated 20 August, 1936, the Decree of 27 July, 1936 [see this *Bulletin*, 1936, No. 9, p. 202] has been revoked and, at the same time, an enquiry has been opened in the circle of Chaouïa-nord (annex of Berrechid) and in the circle of Chaouïa-sud (post of Oulad-Saïd) with a view to constituting a Syndical Association for the control of 'pou rouge'. (*Ibid.*, p. 1084-1085).

*** A Decree of the Director of Waters and Forests, dated 11 August, 1936, authorises the destruction of wild boars causing great damage to the crops situated in certain localities of the territory of civil control of Rabat-banlieue. (*Ibid.*, 18 août 1936, n° 1242 *bis*, p. 1033).

Mexico. — By Circular No. 31-I-44259 of 27 June, 1935, the list of fungicides and insecticides officially permitted by virtue of the Decree of 8 June, 1934 [see this *Bulletin*, 1935, No. 3, p. 64] has been extended in that it now contains 70 products. (*Deutsches Handels-Archiv*, Berlin, 2. Juniheft 1936, 90. Jahrg., S. 1773).

*** By Circulars Nos. 31-I-48105 and 31-I-47850 of 11 and 12 July, 1935 it is understood that the fungicides and insecticides officially recognised and permitted may be imported by all importers.

The products intended for the destruction of vermin are not subject to the dispositions of the above mentioned Decree. (*Ibid.*, S. 1773-1774).

New Zealand. — An Order in Council of 8 January, 1936 prohibits the importation into New Zealand, save with the consent of the Minister of Internal Affairs, of insects, including the eggs of insects and insects in their larval, pupal and adult stages, and of spiders and scorpions and the eggs of spiders and scorpions. (*The New Zealand Gazette*, Wellington, January 16, 1936, Numb. 2, p. 74).

Dominican Republic. — By Regulation No. 1287 of 24 May, 1935, all persons wishing to import plants, parts of plants, seeds, bulbs, etc., should apply to the Ministry of Public Works, Agriculture, Industry and Commerce. The application should contain the names and addresses of the importer and the commissioner, the port of entry, an exact description of the plant products to be imported, the names of the various species of plants in question, their origin and the name and address of the exporting house.

The imports will be inspected on their arrival at the port of entry by the agent of the Phytopathological Service who will permit their entry if the authorisation to import has been granted and if the merchandise is considered in a healthy condition after phytopathologic inspection.

If, however, the merchandise is infested by plant diseases or pests its importation will be prohibited. Such consignments will be destroyed or placed in quarantine. If disinfection appears to be practicable they may be subjected to and appropriate treatment at the expense of the party interested. (*Deutsches Handels-Archiv*, Berlin, 2. Juniheft 1936, 90. Jahrg., S. 1715-1716).

Rumania * — By Decision No. 1.1816 of the Council of Ministers, dated 29 August, 1936, the phytopathological control of all agricultural products (plants, parts of plants, flowers, fruits, seeds, etc.), intended for importation or exportation, may only be carried out by the special organs of the Institute of Agronomical Research of Rumania and by the officers of the Plant Protection Service, all of whom have been specially charged with the work.

Salvador. — The Decree No. 56 of 30 May, 1936, declares the necessity for, and public utility of, the control of diseases and pests affecting crops also the control of diseases of a general character attacking live-stock.

The Decree also authorises the free introduction of substances and apparatus necessary for the destruction of these diseases and pests provided that a permit for this introduction is obtained by those interested in the control from the Ministry of Agriculture. (*Diario Oficial*, San Salvador, 20 de junio de 1936, tomo 120, núm. 136, pág. 1845).

RECENT BIBLIOGRAPHY

Alfaro Cardoso, J. G. Doenças das citrinas em Moçambique. *Boletim da Sociedade de Estudos da Colónia de Moçambique*, Lourenço Marques, 1935, ano IV, nº 27, pags. 179-188; nº 28, pags. 251-259; 1936, ano V, nº 30, pags. 125-135.

Alvarado, Juan Antonio. Resistencia de algunos insectos a la acción mortífera de ciertas substancias demostradamente venenosas por otras especies. *Revista Agrícola*, Guatemala, 1936, vol. XIV, núm. 1, págs. 68 a 72.

Arnaud, G., et Barthelet, J. Les microconidies dans le genre Sclerotinia. *Bulletin trimestriel de la Société mycologique de France*, Paris, 1936, tome LII, fasc. 1, p. 63-79, fig. 1-8. Bibliographie, p. 76-79.

* Communication from the official correspondent of the Institute, Professor G. Arion, Chief of the Plant Protection Service, Ministry of Agriculture and Domains, Bucarest, Rumania.

Balachowsky, A., et Viennot-Bourgin, L. Recherches sur le comportement du carpocapse en vue de l'établissement rationnel des traitements insecticides dirigés contre cet insecte. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1936, tome XXII, nº 22, p. 783-788. [*Cydia pomonella*].

Barnes, H. F. Insect fluctuations: population studies in the gall midges (Cecidomyidae). *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 433-440, fig. 1.

Barnes, H. F., and Mercer, S. P. Damage to panicles of *Alopecurus pratensis* L. by *Apamea secalis* L. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 653-657, fig. 1, pl. XXX. References, p. 653.

Bawden, F. C. The viruses causing top necrosis (acronecrosis) of the potato. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 487-497. References, p. 497.

Best, Rupert J., and Samuel, Geoffrey. The reaction of the viruses of tomato spotted wilt and tobacco mosaic to the *p*H value of media containing them. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 509-537, figs. 1-6. References, p. 537.

Black, M. W. Some physiological effects of oil sprays upon deciduous fruit trees. *The Journal of Pomology and Horticultural Science*, London, 1936, Vol. XIV, No. 2, pp. 175-202, figs. 1-8, 1 diagr., graphs 1-4. Bibliography, pp. 201-202.

Blanchard, Everard E. Dos tisanópteros nuevos para la República Argentina y algunos apuntes sobre especies vecinas. *Physis*, Buenos Aires, 1936, tomo XII, nº 42, págs. 103 a 109, figs. 1-4. Referencias bibliográficas, pág. 109. [*Taeniothrips gladioli* and *Hercothrips femoralis*].

Bogoescu, C., şi Manolache, C. Crematogaster scutellaris Ol. (Myrmicinae) în România. Extras din *Buletinul Societăţii Naturaliştilor din România*, [Bucureşti], 1936, nr. 8, p. 10-12.

Bugnicourt, F. La nécrose de l'écorce saignée de l'hévéa. *Gouvernement général de l'Indochine. Institut des Recherches agronomiques*, Hanoï, 1936, 25 p., 9 pl. Bibliographie, p. 25.
[*Fusarium theobromae* var. *heveae* n. var.].

Cameron, A. E. *Adelges cooleyi* Gillette (Hemiptera, Adelgidae) of the Douglas fir in Britain: completion of its life cycle. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 585-605, figs. 1-3, pl. XXV. References, p. 605.

Cappelletti, Carlo. Osservazioni sulla germinazione dei semi di *Orobanche gracilis* Sm. e *Orobanche crenata* Forsk. *Nuovo Giornale Botanico Italiano* (Nuova serie), Firenze, 1936, vol. XLIII, n. 1, pp. 263-266.

Cecchetti, A. Sulla cascola eccezionale delle pesche nell'annata 1936. *Giornale di Agricoltura della Domenica*, Roma, 1936, anno XLVI, n. 33, p. 275, 2 figg. [*Clasterosporium carpophilum*].

Chabrolin, Ch. Le désherbage sélectif des céréales à l'aide des huiles phénoliques du goudron de houille. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1936, tome XXII, nº 22, p. 770-773.

Clemente, Guglielmo. Le stazioni di segnalazione antiperonosporica nelle provincie di Firenze e Pistoia nel 1935. *Il Coltivatore e Giornale Vinicolo Italiano*, Casale Monf., 1936, anno 82º e 62º, n. 17, pp. 344-347.
[*Plasmopara viticola*].

COHEN, Morris. The biology of the chrysanthemum leaf-miner, *Phytomyza atricornis* Mg. (Diptera: Agromyzidae). *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 612-632, figs. 1-8, pl. XXVI. References, pp. 631-632.

CRANE, M. B., GREENSLADE, R. M., MASSEE, A. M., and TYDEMAN, H. M. Studies on the resistance and immunity of apples to the woolly aphis, *Eriosoma lanigerum* (Hausm.). *The Journal of Pomology and Horticultural Science*, London, 1936, Vol. XIV, No. 2, pp. 137-163, figs. 1-5. References, p. 163.

CURRIE, G.A. A report on a survey of weed problems in Australia. *Commonwealth of Australia. Council for Scientific and Industrial Research. Pamphlet No. 60*, Melbourne, 1936, 38 pp.

DANELIA, B. K. Diseases of the tea bush in West Georgia. *Soviet Subtropics*, Moscow, 1936, 8 (24), pp. 56-61, figs. 1-6.
[In Russian, with title and summary in English].

DAVIES, W. Maldwyn. Studies on the aphides infesting the potato crop. V. Laboratory experiments on the effect of wind velocity on the flight of *Myzus persicae* Sulz. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 401-408, fig. 1, pl. XVII. References, pp. 407-408.

DELAMARRE DE MONCHAUX. La sortie printanière des doryphores. *Comptes rendus hebdomadaires des séances de l'Académie d'Agriculture de France*, Paris, 1936, tome XXII, nº 22, p. 792-795.
[*Leptinotarsa decemlineata*].

DE OLIVEIRA FILHO, M. L. O curuquerê. *Boletim de Agricultura, Zootechnia e Veterinaria*, Bello Horizonte, 1936, anno IX, num. 4, pags. 231-238, figs. 1-8.
[*Alabama argillacea*].

DIMITRIU, Florica L. Contribuţiuni la biologia cetonidului Epicometis (Tropinota) hirta Poda. Extras din *Analele Institutului de Cercetări Agronomice al Romîniei*, Bucureşti, 1936, anul VI (1935), vol. VII, 26 p., 19 fig. Bibliografie, p. 23-26.
[In Rumanian, with summary in German].

DIVISION OF MYCOLOGY. A list of the diseases of cultivated plants in Ceylon. *Department of Agriculture, Ceylon. Bulletin No. 88*, Colombo, 1936, 47 pp.

D'OLIVEIRA, Branquinho. Tipo da germinação dos conídios dos Fusicladia, dendriticum, pirinum e Eryobotryae. *Revista Agronómica*, Lisboa, 1936, vol. XXIV, nº. 1, pags. 20-51, est. I-VII.
[In Portuguese, with summary in English].

D'OLIVEIRA, Maria de Lourdes. Aspectos actuais do problema dos virus filtraveis. *Revista Agronómica*, Lisboa, 1936, vol. XXIV, nº. 1, pags. 52-63. Referencias bibliograficas, pags. 62-63.

DRECHSLER, Charles. A new species of Stylopage preying on nematodes. *Mycologia*, Lancaster, Pa., 1936, Vol. XXVIII, No. 3, pp. 241-246, fig. 1. Literature cited, pp. 245-246.
[*Styl. leichypha* n. sp. capturing and consuming nematodes (*Rhabditis, Cephalobus, Acrobeles*) near Sanford, Florida. Latin and English diagnoses are appended].

ECKSTEIN, Karl. Holzzerstörende Bockkäferlarven. *Ergates faber* L., der Mulenbock, *Leptura rubra* L., der Rothalsbock und *Hylotrupes bajulus* L., der Hausbock. *Zeitschrift für angewandte Entomologie*, Berlin 1936, Bd. XXIII, Heft 2, S. 281-293, Abb. 1-10. Literatur, S. 291-293.

EDWARDS, E. T. Root and basal stalk rot of maize. Burning of stalks essential for control. *The Agricultural Gazette of New South Wales*, Sydney, 1936, Vol. XLVII, Pt. 5, pp. 259-261, figs. 1-2.
[*Gibberella saubinetii*].

FINDLAY, D. H., and SYKES, E. T. Destruction of potato haulm to prevent blight infection of the tubers. *The Journal of the Ministry of Agriculture*, London, 1936, Vol. XLIII, No. 5, pp. 457-459.
[*Phytophthora infestans*].

FIDLER, J. Havelock. Some notes on the biology and economics of some British chafers. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 409-427, figs. 1-2. References, pp. 426-427.
[*Amphimallus solstitialis*, *Serica brunnea*, *Melolontha melolontha*].

GEORGI, C. D. V., GREIG, J. L., and TEIK, Gunn Lay. Varietal and manurial trials with Derris. *The Malayan Agricultural Journal*, Kuala Lumpur, 1936, Vol. XXIV, No. 6, pp. 268-281. References, p. 281.

GIGANTE, R[oberto]. Una nuova virosi della rosa in Italia. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936, anno XVI, n. ser., n. 2, pp. 76-94, figg. 1-14, tav. II-III. Bibliografia, p. 93.

GIGANTE, R[oberto]. Il mosaico del sedano. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936, anno XVI, n. ser., n. 2, pp. 99-114, figg. 1-11, tav. IV. Bibliografia, p. 114.

GOIDÀNICH, G[abriele]. Sulla defogliazione del pioppo. *Giornale di Agricoltura della Domenica*, Roma, 1936, anno XLVI, n. 35, p. 291, figg. 1-4.
[The ' defogliazione primaverile ' (spring fall of leaves) of the poplar, which the Author proposes to call by the more appropriate name of ' disseccamento apicale dei germogli ' (die-back of tips of poplar buds) is caused by a fungus probably belonging to the genus *Phoma*].

GOIDÀNICH, Gabriele. La " moría dell'olmo " (*Graphium ulmi*). Con prefazione di L. Petri. Roma, Ramo Editoriale degli Agricoltori, [1936], 134 pp., 44 figg. Bibliografia, pp. 129-134.
The principal object of the present well documentated, illustrated and printed work, is to study the behaviour of *Graphium ulmi*, the spread of the disease produced by it and the damage caused, in Italy.
The large amount of matter has been divided into four principal parts, the first treating the host plant, the second the parasite, the third the disease, the fourth the means of control.
In the appendix is given a description of certain diseases of the elm which are fairly widespread (almost everywhere abroad, little in Italy) and injurious and which should be known so that they are not confused with elm disease].

GOIDÀNICH, Gabriele. Ricerche sulle " Phytophthorae " del pomodoro. I. La " Phytophthora parasitica " Dast. sul pomodoro. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936, anno XVI, n. ser., n. 2, pp. 115-138, figg. 1-14, tav. V.

GOMEZ-MENOR, Juan. Hongos que ocasionan daños a las plantas "Flor de Sol". *Revista de Agricultura y Comercio*, Ciudad Trujillo, República Dominicana, 1936, vol. XXVII, núm. 80, pág. 2415.
[*Plasmopara halstedii*, *Erysiphe cichoracearum* and *Phragmidium* sp. on *Helianthus annuus*].

GOODEY, T. Some applied biological aspects of problems relating to plant-parasitic nematodes. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 203-230. References, pp. 228-230.

GREEVES, T. N., and MUSKETT, A. E. A temperature study of Pythium attack on swede seedlings. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 264-270, pl. IX. References, p. 270.

HARGREAVES, H. Variegated coffee bug (*Antestia* spp.) in Uganda. *The East African Agricultural Journal of Kenya, Tanganyika, Uganda and Zanzibar*, Nairobi, 1926, Vol. I, No. 6, pp. 448-451.

HARRIS, W. Victor. Notes on two injurious Psyllids and their control. *The East African Agricultural Journal of Kenya, Tanganyika, Uganda and Zanzibar*, Nairobi, 1936, Vol. I, No. 6, pp. 498-500, figs. 1-4.
[*Spanioza erythreae* on *Citrus*, *Phytolyma lata* on *Chlorophora excelsa*].

HELLER, R. M. Ein neuen schädlicher Rüsselkäfer aus der Frucht von *Phoebe elongata* aus Costa Rica. (*Coleoptera*: *Curculionidae*). *Arbeiten über morphologische und taxonomische Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1936, Bd. 3, Nr. 2, S. 140-142, Fig. 1-3.
[*Cryptosternum nevermanni* n. gen. and n. sp.].

HOLZ, W. Zur Färbung des Myzels von Fusicladium dendriticum in Apfelblättern. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten*, II. Abteilung, Jena, 1936, 94. Bd., Nr. 9/13, S. 195. Literaturverzeichnis.

HUBAULT, Et. Extension en France de *Dreyfusia Nüsslini* Börner (*Hemipt. Chermesidae*). *D. Nüsslini* et *D. piceae*, exemple de séparation d'espèces. *Comptes rendus des séances de la Société de Biologie et de ses filiales et associées*, Paris, 1936, tome CXXII, nº 24, p. 1092-1094.

INSTITUT INTERNATIONAL D'AGRICULTURE — INTERNATIONAL INSTITUTE OF AGRICULTURE. L'enseignement agricole dans le monde. — Agricultural education in the world. Rome, 1936, vol. II: Europe, 2ème partie, VII, 466 p.
[See also this *Bulletin*, 1936, No. 3, p. 65. The present volume, published in French and English, is devoted to the following countries: — Hungary, Iceland, Latvia, Lithuania, Luxembourg, Norway, the Netherlands, Poland, Portugal, Rumania, Sweden, Switzerland, Czechoslovakia, Turkey, Soviet Russia and Yugoslavia. Information will also be found on education in Plant Pathology and Agricultural Entomology].

INSTITUT INTERNATIONAL D'AGRICULTURE. Annuaire international de législation agricole. XXVème année, 1935. Rome, 1936, LXXVII, 925 p.
[As usual, the VIIth part of this Annual is devoted to legislative measures for the protection of plants in the various countries].

IWADARE, Satoru. On the geographical distribution of the black rot of rice-grains and the relation of atmospheric temperature to the outbreak of the disease. *Hokkaido Agricultural Experiment Station. Report No. 36*, Kotoni, Sapporo, Japan, 1936, pp. 1-52, *1-2*, 5 figs., 1 graph, 1 map. [Bibliography], p. 52.
[In Japanese, with title and summary in French. — *Pseudomonas itoana*].

JACK, Rupert W. Southern Rhodesia. Locust invasion, 1932-36. Monthly Report No. 43. June, 1936. *The Rhodesia Agricultural Journal*, Salisbury, 1936, Vol. XXXIII, No. 8, p. 584.
[*Nomadacris septemfasciata*].

JARY, S. G. Further experiments on the control of the hop red spider mite, *Tetranychus telarius* L. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 606-611. References, p. 611.

JEPSON, W. F. The development of biological control of insect pests, with special reference to some current experiments. *Revue Agricole de l'Ile Maurice*. Maurice, 1936, nº 85, p. 29-34.

JOHNSON, C. G. The biology of *Leptobyrsa rhododendri* Horvath (Hemiptera, Tingitidae), the rhododendron lacebug. I. Introduction, bionomics and life history. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 342-368, figs. 1-4, pls. XIII-XV. References, pp. 365-368.

JOHNSON, H. W., and EDGERTON, C. W. A heart rot of Magnolia caused by Fomes geotropus. *Mycologia*, Lancaster, Pa., 1936, Vol. XXVIII, No. 3, pp. 292-295, fig. 1.
[On *Magnolia grandiflora*].

KALSHOVEN, L. G. E. Insecten in versche en in opgeschuurde tengkawang pitten. *Tectona*, Buitenzorg 1936, deel XXIX, afl. 1, blz. 44-52.
[In Dutch, with title and summary also in English:— 'Insect damage in newly gathered and in stored illipe nuts (*Shorea* and *Isoptera* spp., fam. *Dipterocarpaceae*)'].

KING, C. B. Redman. A suitable spraying machine for estate use. *The Tea Quarterly*, St. Coombs, Talawakelle, 1936, Vol. IX, Pt. II, pp. 67-68, 2 figs.

KLEIN, H. Z. Citrus mealy bugs and ants on grapefruits. *Hadar*, Tel-Aviv—Jaffa, Palestine, 1936, Vol. IX, No. 2, pp. 42-43, figs. 1-4. Literature, p. 43.
[*Pseudococcus citri*, *Cremastogaster* (*Acrocelia*) *jehovae*].

KLEMM, M. Der gegenwärtige Stand der Frage über die Schädlichkeit des Apfelblütenstechers (Anthonomus pomorum L.). *Zeitschrift für angewandte Entomologie*, Berlin 1936, Bd. XXIII, Heft 2, S. 223-264, Abb. 1-31. Schriftenverzeichnis, S. 262-263.

KNECHTEL, Wilhelm K., și MANOLACHE, Constantin I. Observațiuni biologice asupra gândacului ovăzului Lema melanopus L. în România. Extras din *Analele Institutului de Cercetări Agronomice al României*, București, 1936, anul VI (1935), vol. VII, 25 p., 13 fig., 4 diagr. Literatura, p. 23-25.
[In Rumanian, with summary in German].

KRISHNA, S., and GHOSE, T. P. Occurrence of *Derris elliptica* in India. *Current Science*, Bangalore, 1936, Vol. IV, No. 12, pp. 857-859.

KUNIKE, Georg. Beiträge zur Lebensweise und Bekämpfung des Kornkäfers, Calandra granaria L. (Curculionidae). *Zeitschrift für angewandte Entomologie*, Berlin 1936, Bd. XXIII, Heft 2, S. 303-326, Abb. 1-16.

LACEY, Margaret S. Studies in bacteriosis. XXII. I. The isolation of a *Bacterium* associated with " fasciation " of sweet peas, " cauliflower " strawberry plants and " leafy gall " of various plants. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 302-310, pl. X-XI. References, p. 310.

LACY, R. C. Some more unrecorded host-plants of *Loranthus longiflorus*, Desr. *Current Science*, Bangalore, 1936, Vol. IV, No. 12, pp. 875-876, fig. 1.

LANGENBUCH, R. Bericht des Kartoffelkäfer – Abwehrdienstes, Heidelberg. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1936, 16. Jahrg., Nr. 9, S. 85-87, Abb. 1-2.
[*Leptinotarsa decemlineata*].

LEIB, E. Das erste Jahr des Grossbekämpfungsaktion gegen die Rübenblattwanze in Sachsen. *Die kranke Pflanze*, Dresden 1936, 13. Jahrg., Heft Nr. 9, S. 158-162, Abb. 1-3.
[*Piesma quadrata*].

LIZER Y TRELLES, Carlos A. Algunas cochinillas nuevas para la fauna de la República Argentina. *Physis*, Buenos Aires, 1936, Tomo XII, nº. 42, págs 113 a 116.
[*Aspidiotus cyanophylli, A. ostreaeformis, Chrysomphalus scutiformis, Chrys. personatus, Hemichionaspis aspidistrae, H. minor, Pulvinaria floccifera, Protopulvinaria convexa, Alichtensia attenuata, Orthezia praelonga, Icerya scrottkyi, Neocoelostoma xerophila*].

LOEWEL, E. L. Die Apfelblüte als Spritztermin. *Die Gartenbauwissenschaft*, Berlin 1936, 10. Bd., 2. Heft, S. 232-246, Abb. 1-4. Literaturverzeichnis, S. 246.
[*Fusicladium dendriticum*].

MALENOTTI, Ettore. Quarto anno di osservazioni e di prove sui nemici del melo. *L'Italia Agricola*, Roma, 1936, anno 73, n. 8, pp. 591-607, figg. 1-13.
[*Cydia pomonella*].

MANDELSON, L. F. Experiments with vapours for the control of blue mould of tobacco. *Queensland Agricultural Journal*, Brisbane, 1936, Vol. XLV, Pt. 6, pp. 534-540, pls. 199-201.
[*Peronospora tabacina*].

MCDONALD, J. A revised list of plant diseases in Kenya Colony. *The East African Agricultural Journal of Kenya, Tanganyika, Uganda, and Zanzibar*, Nairobi, 1936, Vol. I, No. 6, pp. 463-468. References, p. 463.

MENOZZI, C[arlo]. Nota preliminare dei rapporti tra parassiti dannosi alla bietola da zucchero e altre piante. *L'Industria Saccarifera Italiana*, Genova, 1936, anno XXIX, n. 8, pp. 378-382.
[*Conorrhynchus mendicus, Cassida vittata, C. nobilis, Lixus junci, Chaetocnema tibialis*].

MONTE, Oscar. Uma invasão de "Mormidea poecila Dallas" nos arrozais do Sul de Minas. *Boletim de Agricultura, Zootechnia e Veterinaria*, Bello Horizonte, 1936, anno IX, num. 3, pags. 163-166, 2 figs.

MONTGOMERY, H. B. S. A study of *Fomes fraxineus* and its effects on ashwood. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 465-486, figs. 1-5, pl. XX. References, p. 486.

MORWOOD, R. B. Paspalum ergot. *Queensland Agricultural Journal*, Brisbane, 1936, Vol. XLV, Pt. 2, pp. 146-147, pl. 45.
[*Claviceps paspali*].

MUNGOMERY, R. W. Entomology in Hawaii. *Queensland Agricultural Journal*, Brisbane, 1935, Vol. XLIV, Pt. 6, pp. 726-732.

PARKIN, E. A. A study of the food relations of the *Lyctus* powder-post beetles. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 369-400, figs. 1-4, pl. XVI. References, pp. 399-400.

PETHERBRIDGE, F. R., and MELLOR, J. E. M. Observations on the life history and control of the cabbage aphis, *Brevicoryne brassicae* L. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 329-341, pl. XII. References, p. 341.

PETHERBRIDGE, F. R., and THOMAS, I. Damage to wheat by *Helophorus nubilus* F. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 640-648, figs. 1-3, pl. XXIX. References, p. 648.

PETHERBRIDGE, F. R., and THOMAS, I. The common rustic moth, *Apamea* (*Hadena*) *secalis* L., attacking winter cereals. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 649-652. References, p. 652.

RAY, W. W. Pathogenicity and cultural experiments with Caliciopsis pinea. *Mycologia*, Lancaster, Pa., 1936, Vol. XXVIII, No. 3, pp. 201-208, figs. 1-6. Literature cited, p. 208.
[On *Pinus strobus*].

RIPERT, J., et GAUDIN, O. Mesure de la toxicité de la pyréthrine I et de la pyréthrine II. *Annales des Falsifications et des Fraudes*, Paris, 1936, XXIX[e] année, n° 327, p. 132-141, fig. 1-2, 2 diagr.

ROBERTS, Florence M. The determination of physiologic forms of *Puccinia triticina* Erikss. in England and Wales. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 271-301. References, pp. 300-301.

ROEBUCK, A. Fluctuations of infect populations: field observations. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 441-444.

SAKSENA, R. K. Recherches physiologiques et cytologiques sur quelques espèces du genre *Pythium*. *Revue générale de Botanique*, Paris, 1936, tome XLVIII, n° 567, p. 156-188, fig. 1-4, pl. XI-XVI-bis; n° 568, p. 214-252, fig. 5-7; n° 569, p. 273-313. Bibliographie, p. 307-313.
[*P. deliense*, *P. de Baryanum*, *P. mamillatum*, *P. indigoferae*].

SASAKI, Mitsuo. On the authracnose of adzuki bean in Hokkaido. *Hokkaido Agricultural Experiment Station. Report No. 36*, Kotoni, Sapporo, Japan, 1936, pp. 53-77, *3-4*. [Bibliography], p. 57.
[In Japanese, with title and summary in English. — *Colletotrichum phaseolorum* on *Phaseolus radiatus* var. *aureus*].

SCHILBERSZKY, Károly. Adatok a Pseudomonas tumefaciens élettani ismeretéhez. *Kisérletügyi Közlemények*, Budapest 1935, XXXVIII. kötet, 5-6. füzet, 207-216 o., 1. ábra.
[In Hungarian, with titles and summaries also in German and French:— 'Beiträge zur Biologie von Pseudomonas tumefaciens'. — 'Contributions à la biologie de Pseudomonas tumefaciens'].

SCHMIDT, Martin. Die Schädlinge des Obst-und Weinbaus. Vierte Auflage des Freiherr von Schilling'schen Werkes in völlig neuer Bearbeitung. Frankfurt (Oder) und Berlin, Gartenbauverlag Trowitzsch & Sohn, [1936], 85 S. mit 45 Farbenbildern auf zwei Tafeln und 24 Fotos.
[This brochure constitues the fourth edition of the well-known publication of von Schilling on the most widespread pests of fruit trees and vines. Dr. M.

Schmidt has retained the coloured plates painted by the first author, and added 24 photos. The explanatory text however has been completely rewritten. Dr. Schmidt intends to enable the reader, by means of an analytic key, to determine the different pests and to give him all useful information on their life history.
The methods and means of control are treated together in a special chapter].

SÉGUY, G. Un nouveau Muscide nuisible à l'orge au Maroc. Liste des Diptères vivant sur les Hordeum. *Bulletin de la Société des Sciences Naturelles du Maroc*, Rabat, 1936, tome XVI, 1er trimestre, p. 3-5, fig. 1.
[*Hylemyia hordeacea* n. sp. Description in French. A list follows of 18 Diptera the larvae of which develop on *Hordeum* spp.].

SHAFIK, M., and HINDI, A. H. Studies on pyrethrum (*Chrysanthemum cinerariaefolium* Trev.) in Egypt. *Ministry of Agriculture, Egypt. Technical and Scientific Service. Entomological Section. Bulletin No. 166*, Cairo, 1936, 24 pp., 6 pls., 1 map. Literature, pp. 23-24.

SHEFFIELD, F. M. L. The susceptibility of the plant cell to virus disease. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 498-505, fig. 1. References, p. 505.

SHEFFIELD, F. M. L. The role of plasmodesms in the translocation of virus. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 506-508, pl. XXI. References, p. 508.

SIBILIA, Cesare. Ricerche sulle ruggini dei cereali. V. Ulteriori ricerche sulla specializzazione della "Puccinia triticina" Erikss. in Italia. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936, anno XVI, n. ser., n. 2, pp. 69-75, 1 carta. Lavori citati, p. 75.

SIBILIA, Cesare. Ricerche sulle ruggini dei cereali. VI. La specializzazione della "Puccinia graminis tritici". Erikss. et Henn. in Italia. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936, anno XVI, n. ser., n. 2, pp. 95-98. Lavori citati, p. 98.

SIBILIA, Cesare. La diffusione dei "Berberis" in Italia in rapporto alla *Puccinia graminis* Pers. *Bollettino della R. Stazione di Patologia Vegetale*, Roma, 1936. anno XVI, n. ser., n. 2, pp. 139-145. Lavori consultati, p. 145.

SIMMONDS, Hubert W. Fruit fly investigations, 1935. *Department of Agriculture, Fiji. Bulletin No. 19*, Suva, 1936, 18 pp., 4 pls. References, p. 18.
[*Chaetodacus passiflorae*, *Ch. xanthodes* and *Chaetodacus* sp. closely related to *Ch. distinctus*].

SIMMONDS, J. H. Diseases of the tomato. *Queesland Agricultural Journal*, Brisbane, 1936, Vol. XLV, Pt. I, pp. 5-11, pls. 1-2.
[*Phytophthora infestans*, *Septoria lycopersici*, *Alternaria solani*, *Bacterium solanacearum*, *Fusarium lycopersici*, *Verticillium albo-atrum*, virus diseases].

SMITH, M. R. Distribution of the Argentine ant in the United States and suggestions for its control or eradication. *United States Department of Agriculture. Circular No. 387*, Washington, D. C., 1936, 39 pp., 24 figs. Literature cited, pp. 38-39.
[*Iridomyrmex humilis*].

SOKOLOV, N. P. Der Einfluss von Temperatur und farbiger Beleuchtung auf Entwicklung und morphologische Eigenschaften der Blattlaus Lipaphis eresimi Kalt. *Zeitschrift für angewandte Entomologie*, Berlin 1936, Bd. XXIII, Heft 2, S. 294-302. Literatur, S. 301-302.

SPEYER, W. Die Empfindlichkeit von Insekten und Insektenlarven gegen Teerölpräparate. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1936, 16. Jahrg., Nr. 9, S. 89-92. Schriftenverzeichnis, S. 92.

STAPP, C., und HÄHNE, H. Zur Frage der Resistenz von Buschbohnensorten gegen den Erreger der Fettfleckenkrankheit Pseudomonas medicaginis var. phaseolicola Burkh. *Angewandte Botanik*, Berlin 1936, Bd. XVIII, Heft 3, S. 249-262. Literatur, S. 262.

STEINER, Paul. Beiträge zur Kenntnis der Schädlingsfauna Kleinasiens III. *Laphygma exigua* Hb., ein Grosschädling der Zuckerrübe in Anatolien. *Zeitschrift für angewandte Entomologie*, Berlin 1936, Bd. XXIII, Heft 2, S. 177-222, Abb. 1-11. Literatur, S. 221-222.

STOREY, H. H. Virus diseases of East African plants. V. – Streak disease of maize. *The East African Agricultural Journal of Kenya, Tanganyika, Uganda and Zanzibar*, Nairobi, 1936. Vol. I, No. 6, pp. 471-475, figs. 1-4. References, p. 475.

SZELÉNYI, Gusztáv. Adatok a máktokbarkó (Ceutorrhynchus macula-alba Hbst.) bionomiájához és ökologiájához. *Kisérletügyi Közlemények*, Budapest 1935, XXXVIII. kötet, 5-6. füzet, 217-224 o., 1-2. ábra. Irodalom, 223 o.
[In Hungarian, with titles and summaries also in German and English:— ' Beiträge zur Kenntnis der Bionomie und Ökologie des Mohnrüsslers (Ceutorrhynchus macula-alba Hbst.) '. — ' Some observations from life history of the poppy-weevil (Ceutorrhynchus macula-alba Hbst.) '].

TATTERSFIELD, F. Fish-poison plants as insecticides. A review of recent work. *The Empire Journal of Experimental Agriculture*, Oxford, 1936, Vol. IV, No. 14, pp. 136-144. References, pp. 143-144.

THOMAS, I. On the occurrence in England of the pear fruit saw-fly, *Hoplocampa brevis* Klug. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 3, pp. 633-639, figs. 1-3, pl. XXVIII. References, pp. 638-639.

THOMPSON, A. *Ustulina zonata* on the oil palm. *The Malayan Agricultural Journal*, Kuala Lumpur, 1936, Vol. XXIV, No. 5, pp. 222-226, 1 pl. References, p. 226.

TOMASZEWSKI, Walter, und FISCHER, Walter. Versuche mit Obstbaumkarbolineen und Baumspritzmitteln. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1936, 16. Jahrg., Nr. 9, S. 87-89, 1 Abb. Literatur, S. 89.
[See also this *Bulletin*, 1936, No. 9, p. 214].

TROUVELOT, Bernard. Remarques sur l'écologie du doryphore en 1935 dans le Massif Central et le Centre de la France. *Revue de Zoologie agricole et appliquée*, Bordeau, 1936, 35e année, nº 3, p. 33-37.
[*Leptinotarsa decemlineata*].

ULLYETT, G. C. Host density and the success of entomophagous parasites. *Nature*, London, 1936, Vol. 137, No. 3470, pp. 742-743, fig. 1.
[*Microplectron fuscipennis*, a parasite of *Diprion polytomum*].

UPPAL, B. N., PATEL, M. K., and KAMAT, M. N. Pea powdery mildew in Bombay. *Department of Agriculture, Bombay. Bulletin No. 177 of 1935*. First edition. Bombay, 1935, 12 pp., 5 pls.
[*Erysiphe polygoni*].

URQUIJO LANDALUZE, Pedro. Hacia la solución del problema del castaño. La Coruña, Papelería e Imprenta « Lombardero », 1936,38 págs., 4 figs., 3 mapas. Bibliografía, [pág.] 27.
[Treats ink disease of the chestnut (*Phytophthora cambivora*) and the means which have been employed to control this disease. The treatment proposed by the Author is to form, with an insoluble copper salt (carbonate) in powder form, a species of barrier round the trunk underground and the upper part of the roots which prevent the penetration of the mycelium of the parasite to the living parts of the plant].

VEITCH, Robert. Potato tuber moth and its control. *Queensland Agricultural Journal*, Brisbane, 1935, Vol. XLIV, Pt. 6, pp. 694-696, pl. 249.
[*Phthorimaea operculella*].

VEITCH, Robert. Red shouldered leaf beetle. *Queensland Agricultural Journal*, Brisbane, 1936, Vol. XLV, Pt. 2, pp. 128-130, pl. 36.
[*Monolepta rosea*].

VINAS, I., et SAVE, I. Méthode rapide de dosage du fluosilicate de baryum dans les poudres insecticides. *Annales des Falsifications et des Fraudes*, Paris, 1936, XXIXe année, nº 327, p. 152-154.

VINSON, Jean. Les Coccinelles des Iles Mascareignes. *Revue Agricole de l'Ile Maurice*, Maurice, 1936,nº 85, p. 19-28, 1 pl. Bibliographie, p. 27-28.
[*Dysis bisquatuorguttata, Chilomenes lunata, Exochomus laevisculus, Platynaspis kollari* var. *capicola, Hyperaspis hottentota, Rodolia chermesina, Scymnus constrictus, S. oblongosignatus, Scymnus* sp., *Scymnhova 4-guttata* (?), *Pullus caeruleipennis, Scymnomorphus* sp., *Lindorus lophanthae, Sticholotis madagassa*].

VRIJDAGH, J. M. Contribution à l'étude de la maladie des chancres des tiges du cotonnier causée par *Helopeltis bergrothi* Reut. *Bulletin Agricole du Congo Belge*, Bruxelles, 1936, vol. XXVII, nº 1, p. 3-37, fig. 1-10. Bibliographie, p. 37.

WEDDELL, J. A. A recent army worm outbreak. *Queensland Agricultural Journal*, Brisbane, 1936, Vol. XLV, Pt. 5, pp. 449-460, pls. 166-171.
[*Spodoptera exempta*].

WENZ, Hans. Spätfrostschäden an Aprikosenblättern. *Die Gartenbauwissenschaft*, Berlin 1936, 10. Bd., 2. Heft, S. 247-255, Abb. 1-3. Literaturverzeichnis, S. 255.

WESTERN, J. H. The biology of oat smuts. IV. The invasion of some susceptible and resistant oat varieties, including Markton, by selected biological species of smut (*Ustilago Avenae* (Pers.) Jens. and *Ustilago Kolleri* (Wille). *The Annals of Applied Biology*, London, 1936. Vol. XXIII, No. 2, pp. 245-263, fig. 1-6, pls. VII-VIII. References, pp. 261-262.

WHITE, C. T. Weeds of Queensland. *Queensland Agricultural Journal*, Brisbane, 1935, Vol. XLIV, Pt. 6, pp. 702-765, pls. 252-253.
[*Centaurea repens, Melilotus indica*].

WINKELMANN, A., und HOLZ, W. Beiträge zur Biologie und Bekämpfung des Apfelschorfes (Fusicladium dendriticum [Wallr.] Fckl.). II. *Zentralblatt für Bakteriologie, Parasitenkunde und Infectionskrankheiten*, II. Abteilung, Jena 1936, 94. Bd., Nr. 9/13, S. 196-215, Abb, 1-8. Literaturverzeichnis, S. 215.

WOLF, Frederick A. False mildew of red mulberry. *Mycologia*, Lancaster, Pa., 1936, Vol. XXVIII, No. 3, pp. 268-277, figs. 1-3. Literature cited, p. 277.
[A disease of *Morus rubra* caused by *Mycosphaerella arachnoidea* n. sp. the conidial form of which is *Cercosporella arachnoidea*. A Latin diagnosis appended].

WOLLENWEBER, H. W., und REINKING, O.A. Die Verbreitung der Fusarien in der Natur. Berlin, R. Friedländer und Sohn, 1935, 80 S., 41 Abb.

WORSLEY, R. R. le G. The insecticidal properties of some East African plants. II. *Mundulea suberosa* Benth. *The Annals of Applied Biology*, London, 1936, Vol. XXIII, No. 2, pp. 311-328, figs. 1-6. Reference, p. 328.

ZALESKI, Karol, i DORYWALSKI, Józef. Dwuletnie doświadczenia polowe z zaprawami nad zwalczaniem śnieci cuchnącej u pszenicy ozimej Edel-Epp (z lat 1932/33 i 1933/34). *Roczniki Nauk Rolniczych i Leśnych*, Poznań 1935, tom XXXV, zeszyt 3, str. 444-455. Literatura, str. 453.
[In Polish, with title and summary also is English:— 'Two years field-experiments in the bunt control (Tilletia tritici) of winter-wheat Edel-Epp by means of different seed-treatments, conducted 1932/33 and 1933/34'].

ZECK, E. H. The cherry aphid (*Myzus cerasi* Fab.). *The Agricultural Gazette of New South Wales*, Sydney, 1936, Vol. XLVII, Pt. 5, pp. 255-258, 6 figs.

NOTES

Resolutions Adopted by the IInd International Forestry Congress. — The IInd International Forestry Congress, held in Budapest from 10 to 14 September, 1936, adopted, *inter alia*, the following resolutions:—

'The Congress recommends, for ascertaining the presence of the two species of cockchafers [*Melolontha melolontha* (*vulgaris*) and *M. hippocastani*], the methods of digging trial ditches which allows not only a comparison to be made between the results obtained in the different countries, but also presents the problem in its true light.'

'The Congress, considering the necessity, for the forecasting and the prophylaxy of the pullulation of insect life, of exact bases derived from the constitution of the forest itself, recommends:—

'(1) The study, at the place of origin, of all pullulations of noxious insects by professional forestry entomologists, directed by a central organisation, established for the whole country or, according to the importance, for a department. The influence of environment on the movement of the masses of insects should always be studied at the actual place of origin. At the same time, investigations should be made on the way in which pullulation influences the vitality and reproduction of species touching the saturation of the living area. When the saturation of the living area is reached and what are the subsequent reactions on the species? To carry out this work, which should be adequately subsidised by the State, well equipped mobile forestry laboratories should be organised which may be utilised at all times on the place of pullulation. In these laboratories the cause of origin, the development of the pullulation and the factors of the crisis may be studied.'

'(2) To understand the influence of nature, both living and dead, and other factors on the movement of the masses of noxious insects during the calm periods, fixed forestry laboratories should be established. It is advisable to organise the distribution

of these fixed laboratories according to the various climatic zones. It is necessary that they should be situated in the centre of the infested territories, in the area of the direct passage of insects and in territories outside the danger zone, always placed directly in private forestry properties. Apart from the study of biotic factors, it is chiefly necessary to concentrate on the influence of abiotic factors on insects and their parasites (climate, weather, environmental climate, microclimate, etc.). The mobile and fixed laboratories should organise places for bioclimatic observation adapted to the biological work. The object of the studies is to determine exactly the best types of forestry formations and the methods of cultivation which give the greatest resistance of environment to the principal noxious insects, that is, which create the most unfavorable conditions for their development and existence. '

' (3) The establishment of forestry stations in the remaining areas of virgin forests. Their duty would be to study the movement of the principal noxious insects of the forest cultivated in areas untouched by man and the knowledge of the factors of these favourable and unfavourable environments. '

Prof. Alessandro Brizi, *Segretario generale dell'Istituto, Direttore responsabile.*